Remarks

I. Introduction

This is in response to the Office Action dated September 18, 2008.

The Office Action rejected claims 1, 3-6, 10-15, 35, and 36 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,485,590 to Hyatt et al. ("Hyatt") in view of U.S. Patent No. 6,631,478 to Wang et al. ("Wang") and further in view of U.S. Patent No. 6,421,071 to Harrison ("Harrison").

The Office Action rejected claims 7-9 under 35 U.S.C. §103(a) as being unpatentable over Hyatt in view of Wang and further in view of Harrison and U.S. Patent No. 6,182,246 to Gregory et al. ("Gregory").

The Office Action objected to claims 1, 6, 35, and 36 for being grammatically and idiomatically incorrect.

The Office Action rejected claims 1, 2, 6, 35 and 36 under 35 U.S.C. §112, first paragraph, for failing to comply with the written description requirement.

The Office Action objected to claim 2 for being in dependent upon a rejected base claim, but would be allowable if the §112 rejection is overcome and the claim is rewritten in independent form.

In response, Applicants have amended claim 2. Claims 16-34 were previously withdrawn. Claims 1-15, 35, and 36 remain for consideration.

II. Objections

The Office Action objected to claims 1, 6, 35, and 36 stating that "the newly added claim limitation 'the location a memory segment of the memory cartridge'" recited in claim 1, 6, 35, and 36 is grammatically and idiomatically incorrect. According to application's specification, 'the location of memory segment of the memory cartridge' is appropriate." Applicants respectfully disagree.

Each of claims 1, 6, 35 and 36 contain the limitation of "a first head marker of the data log file indicative of a location for storage of a next data log record, the location a memory segment of the memory cartridge." The phrase "the location a memory segment of the memory cartridge" further specifies the location "for storage of a next data log record." Thus, the first head marker of the data log file is indicative of a location for storage of the next data log record and the location is a memory segment of the memory cartridge. Therefore, the above limitation recited in claims 1, 6, 35 and 36 is grammatically and idiomatically correct. Accordingly, Applicants respectfully request withdrawal of the objection to the above limitation recited in claims 1, 6, 35, and 36 as being grammatically and idiomatically incorrect.

III. Rejections under 35 U.S.C. §112, first paragraph

The Office Action rejected claims 1, 6, 35, and 36 under 35 U.S.C. §112, first paragraph, stating that "the claim limitation 'a first head marker of the data log file indicative of a location for storage of a next data log record, the location a memory segment of the memory cartridge, the PLC adapted to change the head marker to a record marker responsive to storage of the next data log record'" recited in claims 1, 6, 35, and 36 is not described in either applicant's specification or drawing." In response, Applicants submit that the limitation is supported by the Specification as follows:

The claim limitation "a first head marker of the data log file indicative of a location for storage of a next data log record" is supported at least by paragraph [0047] of the Specification describing Figure 8 stating that "FIG. 8 is a flowchart of an exemplary embodiment of a method 8000 for using the memory cartridge. At activity 8100, a first head marker, indicative of a beginning memory segment for a data log record to be written, can be located on the memory device."

The claim limitation “the location a memory segment of the memory cartridge” refers to the location for storage of the next data log record, as discussed above in connection with the objections to claims 1, 6, 35, and 36. Support for this limitation can be found in the Specification at least at paragraph [0047] which describes a method for using the memory cartridge stating that “the data log record can be of a size storable on a single memory segment.”

The claim limitation “the PLC adapted to change the head marker to a record marker responsive to storage of the next data log record” is supported by at least FIG. 7 and paragraph [0049] which states “At activity 8300, first head marker can be changed to a record marker reflective of the data log record written in at least the beginning memory segment.”

Thus, the claim limitation ‘a first head marker of the data log file indicative of a location for storage of a next data log record, the location a memory segment of the memory cartridge, the PLC adapted to change the head marker to a record marker responsive to storage of the next data log record’” recited in claims 1, 6, 35, and 36 is supported by the Specification for the reasons discussed above. Accordingly, Applicants respectfully request withdrawal of the rejections of claims 1, 6, 35, and 36 under 35 U.S.C. §112, first paragraph.

The Office Action rejected claim 2 stating that “applicant’s specification clearly teaches the PLC can disable and/or eliminate the older, duplicate head marker and changing the value of a binary bit can disable the older duplicate head marker. In response Applicants have amended claim 2 to recite “the PLC adapted to change a value of a binary bit and thereby disable an older, duplicate head marker responsive to a determination that the first head marker and older, duplicate head marker are turned on simultaneously due to a power failure”. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 2 under 35 U.S.C. §112, first paragraph.

IV. Rejections under 35 U.S.C. §103

Claims 1, 3-6, 10-15, 35, and 36 were rejected under 35 U.S.C. §103 as being unpatentable over Hyatt in view of Wang and further in view of Harrison.

In order to "establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art." In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Furthermore, "all words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). See also MPEP § 2143.03. None of the cited references, either alone or in combination, teach all of the claim limitations of independent claims 1, 6, 35 and 36. Therefore, Applicants request the withdrawal of the rejections of claims 1, 6, 35, and 36 under 35 U.S.C. §103(a).

The subject area of the present invention relates generally to a Programmable Logic Controller (PLC) and more particularly to utilizing a memory cartridge connected to a PLC. As stated in paragraph [0002] of the Specification, "commercially available Programmable Logic Controllers (PLC's) can be supplied with a memory device for storage. The memory device, which can be a memory cartridge, is most often an electronically erasable programmable read only memory (EEPROM) device." Figure 8 depicts a flowchart of an exemplary embodiment of a method 8000 for using the memory cartridge which is described in paragraphs [47]-[49] of the specification. In brief, "at activity 8100, a first head marker, indicative of a beginning memory segment for a data log record to be written, can be located on the memory device...At activity 8200, the data log record, which can comprise a second head marker, can be written to at least the beginning memory segment. The data log record can be written on at least one vacant memory segment...At activity 8300, the first head marker can be changed to a record marker reflective of the data log record written in at least the beginning memory segment. The record marker, as changed, can be indicative of the successful writing of the data log record comprising the second head marker."

This aspect of the present invention is claimed in independent claim 1, which recites the limitation of "a first head marker of the data log file indicative of a location for storage of a next data log record, the location a memory segment of the memory cartridge, the PLC adapted to change the head marker to a record marker responsive to storage of the next data log record." The cited references do not disclose this limitation, and, as such, cannot render independent claim 1 unpatentable.

The Office Action admits that this limitation is not disclosed by Hyatt and Wang. The Office Action states that this limitation is disclosed by Harrison. In particular, the Office Action states that the limitation of "the PLC adapted to change the head marker to a record marker responsive to storage of the next data log record" is disclosed in Harrison column 3, lines 3-20.

Harrison discloses a synchronous scrolling of time stamped log files. In Harrison, "a computer based data analyzing system includes a memory storing a plurality of different log files. The memory is accessed to select a group of log files for simultaneous display in corresponding windows of a display device. A scroll command accesses the memory to simultaneously scroll the group of log files displayed in the corresponding windows with respect to a common parameter, such as a time stamp." (Harrison Abstract)

Harrison column 3, lines 3-20 disclose how a user may select a group of log files for simultaneous viewing from a list of the available log files for each of a list of directories. "After the user selects the files to be viewed, a software function in CPU 10 generates a list of unique time stamps and file positions associated with each unique time stamp for each log file, then populates arrays in register 50 with this information...Once the arrays are populated, a software function in CPU 10 accesses each array, gets the file position of the first time stamp for each log file, then displays that portion of each log file from memory 30 in a separate window on display 40 at that starting position."

Thus, Harrison discloses retrieving information from log files and then displaying information from multiple log files in multiple windows of a display. Harrison describes in detail how the log files contained on memory 30 may be searched by CPU 10 and subsequently displayed. However, Harrison does not disclose CPU 10 changing any head marker indicating a location of a log file on memory 30 into a record marker. Thus, Harrison does not disclose "a first head marker of the data log file indicative of a location for storage of a next data log record, the location a memory segment of the memory cartridge, the PLC adapted to change the head marker to a record marker responsive to storage of the next data log record" as recited by independent claim 1.

Further, the cited references, either alone or in combination, do not disclose a PLC changing data stored on a memory cartridge and, as such, cannot render independent claim 1 unpatentable.

Hyatt discloses a programmable controller communication interface module which is configurable by a removable memory cartridge. The Abstract of Hyatt states that the "removable memory cartridge stores a plurality of programs for execution by the port microprocessors to exchange data over the networks using different communication protocols. Configuration data is stored in the module defining which program is to be transferred from the memory cartridge into the shared memory of each port circuit."

As described in column 2 of Hyatt, lines 20-22 recite "[a] module provides a serial communication interface for coupling input and output devices and other remote apparatus to a programmable controller" and lines 33-40 state:

> The communication module further includes a connector into which a removable memory cartridge may be inserted. The memory cartridge provides non-volatile storage for a program that controls the processor. A mechanism is provided in the module to transfer the program from the memory cartridge to the memory in the port circuit. This enables the communication protocol to be changed by changing the memory cartridge and transferring a different program into the port circuit memory.

Column 4, lines 3-10 of Hyatt further define the memory cartridges stating:

> A unique feature of the serial communication module 15 is a pair of removable communication protocol cartridges 20a and 20b plugged into sockets through the

front panel of the module. Each protocol cartridge stores two different communication protocol programs for the three I/O ports 14a-c of the module. The module can be reconfigured for a different set of communication protocols merely by changing the protocol cartridges.

Column 6, lines 54-63 of Hyatt detail how the memory cartridges are used stating:

> The terminal presents the user with a menu of functions from which to choose. In order to redefine the protocols for an I/O port, the user initially would select the function to configure basic module parameters and identify which protocol cartridge ROM A1, A2, B1 or B2 contains the program for the port 14a-c being configured. When the user exits the basic module configuration function, the module controller 24 transfers the contents of the designated protocol cartridge ROM into other memory devices in the communication module 15.

Accordingly, although Hyatt discloses retrieving data from removable memory cartridges, Hyatt does not disclose a PLC changing data stored on the memory cartridges. Thus, Hyatt fails to disclose "a first head marker of the data log file indicative of a location for storage of a next data log record, the location a memory segment of the memory cartridge, the PLC adapted to change the head marker to a record marker responsive to storage of the next data log record" as recited in independent claim 1. Wang and Harrison fail to disclose the limitation missing from Hyatt.

Wang discloses a technique for implementing high performance stable storage hierarchy in a computer network. Although Wang discloses a processor in communication with a memory, Wang does not disclose a PLC adapted to change data stored on a memory cartridge. Thus, Wang fails to disclose "a first head marker of the data log file indicative of a location for storage of a next data log record, the location a memory segment of the memory cartridge, the PLC adapted to change the head marker to a record marker responsive to storage of the next data log record" as recited in independent claim 1.

Harrison does not disclose a PLC in communication with a memory cartridge. Further, although, Harrison discloses a CPU accessing a memory, Harrison does not disclose a PLC that can change data stored on a memory cartridge. Thus Harrison does not disclose the limitation of "a first head marker of the data log file indicative of a location for storage of a next data log record, the location a memory segment of the memory cartridge, the PLC adapted to change the head marker to a record marker responsive to storage of the next data log record" as recited by claim 1.

Since Hyatt, Wang, and Harrison, either alone or in combination, fail to disclose each and every limitation of independent claim 1, the cited references cannot render independent claim 1 unpatentable. As such, Applicants respectfully request withdrawal of the rejection of independent claim 1 under 35 U.S.C. §103(a) over Hyatt, Wang, and Harrison.

Independent claims 6, 35, and 36 were rejected under 35 U.S.C. §103(a) over Hyatt, Wang, and Harrison. Independent claims 6, 35, and 36 each contain the limitation of "a first head marker of the data log file indicative of a location for storage of a next data log record, the location a memory segment of the memory cartridge, the PLC adapted to change the head marker to a record marker responsive to storage of the next data log record" as recited in independent claim 1. Thus independent claims 6, 35, and 36 are allowable for the same reasons discussed above in connection with independent claim 1.

For the reasons discussed above, all independent claims are allowable over the cited art. All remaining dependent claims are dependent upon an allowable independent claim and are therefore also allowable.

V. No New Matter has Been Added

The amendments to claim 2 do not add new matter. Support for the amendments to claim 2 can be found at least in paragraphs [50] and [51] of the specification.

VI. Conclusion

For the reasons discussed above, all pending claims are allowable over the cited art. Reconsideration and allowance of all claims is respectfully requested.

Respectfully submitted,

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